

Application No. 10/596,150
Amdt. Dated: September 19, 2007
Reply to Office Action Dated: June 26, 2007

Amendments to the Specification

Please replace the paragraph beginning at page 3, line 14, with the following amended paragraph:

The term region as used herein within the meaning of claim 1 may comprise the whole of the object or only part thereof.

Please replace the paragraph beginning at page 3, line 16, with the following amended paragraph:

The reconstruction of the intermediate images with a low spatial resolution as claimed in claim 2 leads to a reduction in computing work and cost when the intermediate images are being reconstructed. The spatial resolution of the intermediate images has to be sufficiently high to enable motion artifacts to be discerned in the intermediate images. No other requirements are normally laid down for the resolution of the intermediate images. In particular, it is not necessary to reconstruct intermediate images of as high a spatial resolution as possible such as are required for diagnostic purposes.

Please replace the paragraph beginning at page 3, line 23, with the following amended paragraph:

In claim 3-a-A region of the object that is to be examined (the field of view - FOV) is divided into sub-regions. Then, there is determined for each sub-region the respective phase of movement in which the particular sub-region moved least during the acquisition. What are then used for reconstructing a sub-region in the computer tomographic image (CT image) to be reconstructed in conclusion are solely measured values that were acquired while the object was in a phase of movement in which it moved least in the sub-region concerned. Because the object may move differently in different sub-regions, this results in a further reduction in the motion artifacts.

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Please replace the paragraph beginning at page 3, line 33, with the following amended paragraph:

Determining the intermediate image having the fewest motion artifacts by means of a motion-artifact metric and a motion-artifact value-as-claimed-in-claim-4, and in particular by means of a mean of gradients of image values of an intermediate image in the direction of the axis of rotation as claimed in claim 5, leads to a further reduction in the motion artifacts.

Please replace the paragraph beginning at page 4, line 3, with the following amended paragraph:

When known methods are being used, motion artifacts occur to a particularly marked degree at points where regions of the object are reconstructed with measured values whose times of acquisition, although they were situated in the same phase of movement, were situated in different periods. Such regions are referred to as overlap regions. Overlap regions occur especially frequently with objects that move fast relative to the data acquisition process, such as the human heart, because high temporal resolution is needed to reconstruct such objects, which means that ranges of phases of movement that are as narrow as possible have to be used. Because the measured values used are solely ones whose times of acquisition were situated in these ranges of phases of movement then, in order to have a sufficient number of measured values available for the reconstruction, measured values from as many different periods as possible are used to reconstruct the same region of the object. The An embodiment described herein claimed in claim 6 allows for this fact by assigning to gradients situated in these overlap regions a greater weight than to gradient that are not situated therein. This gives a further reduction in the motion artifacts.

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Please replace the paragraph beginning at page 4, line 17, with the following amended paragraph:

A computer tomograph for performing the method according to the invention is defined herein in claim 7.

Please replace the paragraph beginning at page 4, line 19, with the following amended paragraph:

An embodiment described herein Claim 8 defines a computer program for controlling a computer tomograph ~~as claimed in claim 7.~~